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108. Proposed by F. P. MATZ, M. Sc., Ph. D., Professor of Mathematics and Astronomy, Irving College, Mechanicsburg, Pa.

Prove that the *inclination* of a perfectly rough inclined plane must be $\theta = \sin^{-1}[e^2/(2-e^2)]$, in order that an ellipse of minimum eccentricity e may be capable of resting in equilibrium on the plane.

*** Solutions of these problems should be sent to B. F. Finkel not later than March 10,

AVERAGE AND PROBABILITY.

99. Proposed by E. B. SEITZ.

A point is taken at random in the surface of a given circle, and from it a line equal in length to the radius is drawn, so as to lie wholly in the surface of the circle. Find the chance that the line intersects in a given diameter. [No. 135, *The Analyst*.]

100. Proposed by L. C. WALKER, Associate Professor of Mathematics, Leland Stanford Jr. University, Palo Alto, Cal.

Required the average distance between two points in opposite sides of a regular $2n$ -gon.

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MISCELLANEOUS.

100. Proposed by F. P. MATZ, M. Sc., Ph. D., Professor of Mathematics and Astronomy, Irving College, Mechanicsburg, Pa.

Determine the maximum value of $(\varphi - \varphi')$, if given electric currents C and C' produce deflections φ and φ' in a tangent galvanometer, so that $\tan \varphi / \tan \varphi' = C/C'$.

101. Proposed by G. B. M. ZERR, A. M., Ph. D., Professor of Chemistry and Physics, The Temple College, Philadelphia, Pa.

A wire is laid along the surface of a right cone semi-vertical angle β so that it cuts the generators everywhere at a constant angle θ . Find the radius of curvature and radius of torsion.

*** Solutions of these problems should be sent to J. M. Colaw not later than March 10.

EDITORIAL NOTE.

The MONTHLY begins the twentieth century with eighth volume. Seven volumes are already completed, and we trust that by the coöperation of its friends it may complete many more volumes.

It is desirable to publish more papers in the future, but only such as are of real value and merit. It is not desirable to publish articles which are mere